

### **REMARKS**

Claims 1–31 are presently pending in this application. Claims 26 and 27 have been allowed. Claims 6-10, 13-25, 28 and 29-31 have been objected to as being dependent upon a rejected base claim. Applicant respectfully acknowledges the Examiner's indication of the allowable subject matter, but elects to defer proceeding with the allowable subject matter until the Examiner has considered Applicant's arguments set forth below. The Examiner is respectfully requested to reconsider and withdraw his rejections in view of the above amendments and remarks as set forth below.

### **REJECTION UNDER 35 U.S.C. § 103**

Claims 1-5, 11 and 12 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Trezza (U.S. Patent No. 6,889,010) in view of Yoo (U.S. Patent No. 6,519,062). This rejection is respectfully traversed.

Applicant respectfully traversed the rejection under U.S.C. Section 103(a) for the following reasons. Claim 1 of the present application recites a first limitation that reads "network-node equipments connected via optical transmission paths so as to form a geometrically star-shaped physical star topology having the AWG in the center". Further, Claim 1 of the present application recites a second limitation that reads "the network-node equipments comprises a device of wavelength switching that switches the wavelength of the optical input signal in order to dynamically change a logical network topology". Trezza fails to teach or suggest the above-mentioned first and second limitations of Claim 1 in combination with other claim limitations thereof.

Trezza discloses the optical commutation system that does not utilize wavelength division multiplexing. However, as stated in the Office Action, Trezza does not teach or suggest using any type of arrayed waveguide gratings (AWG). Thus, Trezza fails to teach or suggest any geometrically star-shaped physical star topology having a AWG in the center. Moreover, Trezza fails to teach or suggest that "network-node equipments are connected via optical transmission paths so as to form a geometrically star-shaped

physical star topology having the AWG in the center”. Accordingly, Trezza fails to teach or suggest the above-mentioned first limitation of Claim 1.

Further, Trezza fails to disclose, teach or suggest for switching the wavelength of any optical signal and for dynamically changing a logical network topology. The logical network topology is a topology that indicates a geometrical form of routes of the optical signals used for transmitting/receiving data between network-node equipments. The logical network topology is different from the physical network topology. Namely, Trezza fails to disclose, teach or suggest that “the network-node equipments comprises a device of wavelength switching that switches the wavelength of the optical input signal in order to dynamically change a logical network topology”. Accordingly, Trezza fails to disclose, teach or suggest the second limitation of Claim 1.

In addition, on column 16, lines 15-17, Trezza addresses the “reconfiguration” of a star network to different topologies that are shown in FIGS. 9A, 9B and 9C”. Trezza mentions on column 15, lines 57-60 that “the mating fiber optic interconnect can be re-positioned so that the physical connection between the leaf nodes and the central node will change”. The physical repositioning of the physical interconnect may lead inevitably to the changing of the physical network topology. It should be noted, however, that the physical repositioning of the mating fiber optic interconnect is substantially different in technical perspectives from the “dynamical changing of the logical topology”. The phrase “reconfiguration of the physical topology” disclosed by Trezza is different in the meanings from the meaning “dynamically changing the logical network topology” recited in Claim 1. Therefore, it is believed to be reasonable that Trezza fails to teach or suggest the second limitation of Claim 1.

Likewise, Yoo fails to teach or suggest the above-mentioned first and second limitations of Claim 1. Yoo discloses an AWG in FIGS. 8 and 9 as stated in the Office Action. Yoo discloses a physical mesh network topology and a logical mesh network topology. However, Yoo fails to disclose any star-shaped physical star topology having the AWG in the center. Thus, Yoo fails to teach or suggest “the network-node equipments connect via optical transmission paths so as to form a geometrically star-shaped physical

star topology having the AWG in the center". Namely, Yoo fails to disclose, teach or suggest the above-mentioned first limitation of Claim 1.

In addition, changing the physical or logical mesh network topology of Yoo into a physical or logical ring network topology is actually difficult because wavelength collision will probably occur while changing the topology. The degree or probability of causing wavelength collision is likely to depend upon the degree of traffic of the optical signals on the network topology. The logical network topology of Yoo will be difficult to be actually changed, even if it is attempted to change the topology. Thus, it is believed that Yoo fails to teach or suggest dynamically changing a logical network topology to a person skilled in the art.

Further, Yoo discloses input wavelength converters 406 and output wavelength converters 408 that are connected to the AWG 414 on column 14, lines 55-57 and in FIG. 8. It is apparent from FIG. 8 that the input and output wavelength converters 406 and 408 are not fallen into the category of "network-node equipment". Thus, Yoo fails to disclose, teach or suggest any network-node equipments that equipments that dynamically change a logical network topology. Therefore, Yoo fails to disclose, teach or suggest that "the network-node equipments comprises a wavelength switching that switches the wavelength of the optical input signal in order to dynamically change a logical network topology". Accordingly, Trezza in combination with Yoo fails to disclose, teach or suggest the second limitation of Claim 1.

Moreover, since Trezza fails to teach a device of wavelength switching as recited in the second limitation of claim 1, Trezza would not function to dynamically change the logical network topology even if the AWG from Yoo replaced in router in Trezza. In other words, the network configuration of Trezza having an AWG would still not function in the manner as recited in Claim 1 of the present application. Thus, the combined teachings of Trezza and Yoo fail to teach Claim 1 as a whole. For at least these reasons, it is respectfully submitted that Claim 1, along with claims depending therefrom, defines patentable subject matter over Trezza in combination with Yoo. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.


**CONCLUSION**

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 08-0750, under Order No. 5259-000054/US/NP from which the undersigned is authorized to draw.

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Respectfully submitted,

By 

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